3C

$$\lim_{h\to 0} \frac{\frac{2h}{\sqrt{x}\sqrt{x+h}\left(\sqrt{x}+\sqrt{x+h}\right)}}{h} = \frac{1}{\sqrt{x}\sqrt{x}\left(\sqrt{x}+\sqrt{x}\right)} = \frac{1}{2x\sqrt{x}}$$

$$= \boxed{\frac{1}{2}x^{-\frac{3}{2}}}$$

4A $2x+3$

4B $-2-6x$

5B $f(x) = x^4$

$$\lim_{h\to 0} \frac{(x+h)^4 - x^4}{x+h-x} = \frac{x^4 + 4x^3h + 6x^2h^2 + 4xh^3 + h^4 - x^4}{h}$$

$$\lim_{h\to 0} \quad 4x^3 + 6x^2h + 4xh^2 + h^3 = \boxed{4x^3}$$

at $x=3$ $4(3)^3 = 108$